An Evaluation of A Proposed Solution for the Marine Insurance Problems of the Texas Shrimping Industry

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I. INTRODUCTION

On June 8, 1971, Mr. John A. Mehos, an officer of the Liberty Fish and Oyster Company, Galveston, Texas, assessed the marine insurance problems of the Texas shrimping industry. To a gathering of vessel owners and operators, and other interested persons, he described the price and availability of marine insurance as being the "worst problem in the industry." Although there had been difficulties during the past few years, the problem had increased. He stated that insurance for wooden vessels was difficult to obtain (some vessels were tied up or operating without insurance) and that if the industry did not act, insurance for steel-hulled vessels also would become expensive.[1]

Cause of the Problem

High losses caused the problem according to Mr. Mehos. The shrimping industry had done little to reduce risk and improve operating standards -- it had asked for its (then) current situation. He called for collective action toward solving the insurance problem since the industry had created it and only the industry could solve it.[2]

In the discussion which followed, the moral hazzards of the industry were emphasized; irresponsible operators, unsafe vessels and deliberate damage to vessels were listed among the causes of

the industry's poor loss record. One participant stated that a principal cause of the losses was the "morals of the industry, not the perils of the sea." [3]

Proposed Solution By the Industry

Against this backdrop of urgency two plans were outlined. The first called for an industry-owned insurance company. Members of the Texas Shrimp Association would comprise the ownership, and develop rules and regulations regarding safety and operating standards. Those who refused to meet the company's rules and regulations would be denied insurance.[4]

An alternative course of action suggested was to obtain group insurance from an existing insurer. The formation of a "captive" insurance company dominated the discussion, however. With the basic points agreed to, approximately $5,000 was collected from the members of the Texas Shrimp Association to conduct an analysis of the two courses of action.[5]

Plan and Limitations of the Research

This research project was conceived prior to the industry's meeting reported in the previous sections. After preliminary research, the author became convinced that the most promising avenues

for solving the marine insurance problems of the Texas shrimping industry were the formation of a captive insurance company or the application of the group insurance concept. This conviction was developed during interviews with knowledgeable persons in the insurance industry. They, like Mr. Mehos, indicated that marine insurers were finding shrimp boat insurance unprofitable, even at high premium rates. Heavy loss payments were the cause of the unprofitability. Because of their high-loss record, wooden vessels were becoming almost uninsurable.

Shrimping operations were not becoming more dangerous, but some boat operators were carrying on their activities in an unsafe manner according to several persons active in the marine insurance industry. If corrective actions were taken against these practices, insurance could be made available at reasonable premium rates.

One method of dealing with safety problems is to control the acquisition of risks through careful underwriting. Since no one would be better able to judge the reliability of an applicant for insurance better than his peers, the concept of an industry-owned insurance company or a controlled industry group seemed to be workable solutions to this problem. This preliminary conclusion was confirmed by the industry's meeting on June 8, 1971.

Since the industry took decisive action toward analyzing the two possible solutions, it was decided that the author would co-

operate with the industry in its undertakings. Through an independent study it would be possible to gather from Texas Shrimp Association (TSA) members marine insurance data which an industry member could not obtain.

The first research effort was to gather marine insurance data directly from cooperating TSA members. From these data, estimates of average premium rates, loss ratios, principal causes of loss and other analyses could be made. If the analyses indicated the possibility that marine insurance could be provided on a profitable basis, the industry could proceed with plans for solving its insurance problems. After collection and analysis of data, evaluation of the insurance plan developed by TSA could be undertaken.

The study was restricted to an analysis of hull insurance for two reasons. First, it was not possible for protection and indemnity insurance (P & I) data to be collected from the TSA membership. Second, the premium rates at which this insurance is sold are affected by world-wide experience. Conditions in local areas have little impact on premium rates and availability of P & I insurance. Although P & I insurance is an important part of marine insurance coverage for the shrimping industry, it was decided to eliminate it from this research effort.

Although a considerable amount of literature concerning marine insurance exists, very little is relevant to fishing industry problems.

One study was recently published by the University of Washington Sea Grant Program.[6] Prepared by Michael L. Redfield, it deals with the problems of P & I insurance and hull insurance. Although his work is more general than this study, several of his observations were valuable to the author.

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II. AN ANALYSIS OF SELECTED MARINE INSURANCE DATA

With the cooperation of the Gulf Trawler Insurance Fund Comittee of the Texas Shrimp Association, marine insurance data were collected from several operators of shrimping fleets. Data for a five-year period were collected for both steel and wooden vessels. Table I shows, by years, the number of individual firms reporting and the total number of steel and wooden vessels operated by the respondents.

The number of vessels reported on for 1969/1970 and 1970/1971 total 129 and 120, respectively; in 1971, TSA members operated 499 vessels.[7] Therefore, about one-fourth of the vessels operated by members are included in the sample. A summary of questionnaire responses is given in Appendix I.

Using a questionnaire, the following information was obtained

for each year 1966/1967 through 1970/1971.

(1) Type of hull - steel or wooden

(2) Total agreed valuation of all insured vessels in operator's fleet.

(3) Agreed valuation of insured vessel in fleet with lowest valuation

(4) Agreed valuation of insured vessel in fleet with highest valuation

(5) Average premium rate for fleet

(6) Deductible amount

(7) Total premium paid

(8) Major causes of losses

For statistical purposes these data have a principal fault--they were not gathered randomly. Accordingly, they cannot be used for making inferences about the entire Texas shrimping fleet. Thus, the analysis of the data must be restricted to the vessels and operators included in the sample. This does not destroy the usefulness of the data for the purpose of this research.

Loss Experience

Data received concerning premiums paid and losses experienced permit an analysis of the loss experience for the period. It is possible to calculate a pure loss ratio (the ratio of losses to premiums paid) for both steel and wooden vessels. (The writer recognizes that earned premium is required for determining the actual loss ratio. These figures are not available from the assured.)

Table I

Questionnaire Responses from Texas Shrimp Association Members

	Steel Vessel		Wooden Vessel		
	Number of Firms	Number of Vessels	Number of Firms	Number of Vessels	Total Vessels
1966/1967	7	64	3	34	98
1967/1968	8	85	5	51	136
1968/1969	9	84	5	48	132
1969/1970	9	78	6	51	129
1970/1971	9	73	6	47	120

The loss ratio calculations are reported in Table II and several points should be noted. The loss ratios for steel vessels are lower; they range from about 14 percent to about 40 percent. Total losses and premiums paid for steel vessels during the period produce a loss ratio of 27.5 percent. For wooden vessels the loss ratio was much more variable, ranging from a low of 7 percent to a high of 63 percent. The loss ratio for wooden vessels during the entire period was 41 percent.

Of course, insurance companies must pay other expenses in addition to losses; premiums must also cover operating expenses. For the years 1966 to 1968, according to Best's Review, the expense ratio (expenses expressed as a percentage of premiums) averaged 24.4 percent of premiums for all mutual companies writing casualty insurance and 31.7 percent for stock companies.[8] These companies write all types of casualty insurance; some do not write marine insurance. However, these data are reasonably indicative of the level of expenses incurred by insurers.

Total dollar losses for the five-year period for wooden vessels are about 80 percent of the total dollar losses for steel vessels, despite the fact that the number of steel vessels was larger (as reported in Table II). Further, the total amount insured (the agreed valuation) over the period is greater for steel vessels, as shown in Table III.

Table II

Pure Loss Ratios Developed For Vessels Included in the Sample

Steel Vessels

Year	Number of Vessels	Premium Paid	Losses	Pure Loss Ratio	Number of Incidents
1966/1967	64	$137,025	$ 25,000	18.24%	1
1967/1968	85	170,631	50,190	29.41%	1
1968/1969	84	178,697	70,920	39.68%	3
1969/1970	78	217,164	74,027	34.08%	3
1970/1971	73	190,923	26,700	13.98%	2
Total		$894,440	$246,837	27.59%	10

Source: Sample Data

Table II (Con't)

Wooden Vessels

Year	Number of Vessels	Premium Paid	Losses	Pure Loss Ratio	Number of Incidents
1966/1967	34	$56,575	$4,000	7.07%	1
1967/1968	51	96,802	62,511	64.57%	4
1968/1969	48	105,296	50,000	47.48%	3
1969/1970	51	112,069	70,700	63.08%	3
1970/1971	47	112,839	14,000	12.40%	2
Total		$483,581	$201,211	41.60%	13

Source: Sample Data

Table III

Agreed Valuation of Vessels Included in the Sample

Steel Vessels

Year	Number of Vessels	Total Agreed Valuation	Average Agreed Valuation
1966/1967	64	$3,537,500	$55,273
1967/1968	85	4,891,093	57,542
1968/1969	84	4,998,175	59,502
1969/1970	78	5,846,000	74,949
1970/1971	73	5,266,000	72,137
Total		$24,538,768	

Wooden Vessels

Year	Number of Vessels	Total Agreed Valuation	Average Agreed Valuation
1966/1967	34	$1,451,000	$42,676
1967/1968	51	1,936,800	37,976
1968/1969	48	1,942,400	40,466
1969/1970	51	2,281,600	44,737
1970/1971	47	2,073,000	44,106
Total		$9,684,800	

Source: Sample Data

Another point to be noted is the large average loss, as indicated in Table IV. Apparently, there is a tendency toward an incident being accompanied by considerable damage to the vessel. Since the steel-hulled vessels generally have greater valuations than the wooden-hulled vessels, the former group experiences higher average losses per incident than the latter group.

Causes of Losses

Respondents were asked to name the major cause of the losses. In Table IV, these responses are summarized. Although the replies were rather terse, it is possible to gain some insight into the nature of the losses that are experienced. Groundings, strikings and collisions account for about one-half (13 of 23) of the individual incidents. Bad weather and storm losses accounted for nearly one-third (7 of 24) of the total.

Premium Rate Variance

Premium rate variance for the sample group may be observed in the data presented in Table V. For each year, average premium rates for the group were determined by dividing total premiums paid by the total agreed valuation. Also given are the highest and lowest premium rates reported.

The increasing rate divergence over time between the highest rates reported for each type vessel is evident. Average rates were higher for wooden vessels in each of the years except for 1966/67.

Table IV

Loss Information for Vessels Included in the Sample

Steel Vessels

Year	Cause of Loss	$ Loss
1966/1967	Hit submerged object	$25,000
1967/1968	Crew negligence	50,190
1968/1969	Grounding	2,450
	Bad weather	68,470
	Electrical	
1969/1970	Beached -- asleep on watch	4,524
	Bad weather	66,870
	Collision with jetty	2,633
1970/1971	Bad weather	20,000
	Hurricane	6,700
Total losses for the 5-year period		$246,837
Number of incidents		10
Average loss		$ 24,684

Source: Sample Data

Table IV (Con't)

Wooden Vessels

Year	Cause of Loss	$ Loss
1966/1967	Hurricane	$4,000
1967/1968	Grounding	
	Struck submerged object	58,636
	Barratry	
	Hurricane	3,875
1968/1969	Grounding	14,000
	Struck pier	
	Struck submerged object	36,000
1969/1970	Hurricane	
	Collision	25,700
	Hit reef and sunk	45,000
1970/1971	Collision	
	Collision	14,000
Total losses for the 5-year period		$201,211
Number of incidents		13
Average loss		15,477

Source: Sample Data

Table V

Premium Rates for Steel and Wooden Vessels
Included in the Sample

	Steel Vessels			Wooden Vessels		
Year	Average*	Low	High	Average*	Low	High
1966/67	3.87%	2.25%	5.5%	3.89%	3.5%	5.25%
1967/68	3.48%	2.5 %	5.5%	4.99%	3.5%	8.00%
1968/69	3.57%	2.1 %	5.5%	5.42%	3.4%	8.2 %
1969/70	3.71%	2.25%	6.00%	4.91%	2.9%	12.65%
1970/71	3.62%	3.0 %	6.00%	5.44%	3.1%	10.6 %

*Average rates were calculated as follows: Total premiums paid during the period divided by total agreed valuation declared for the period.

Source: Sample Data

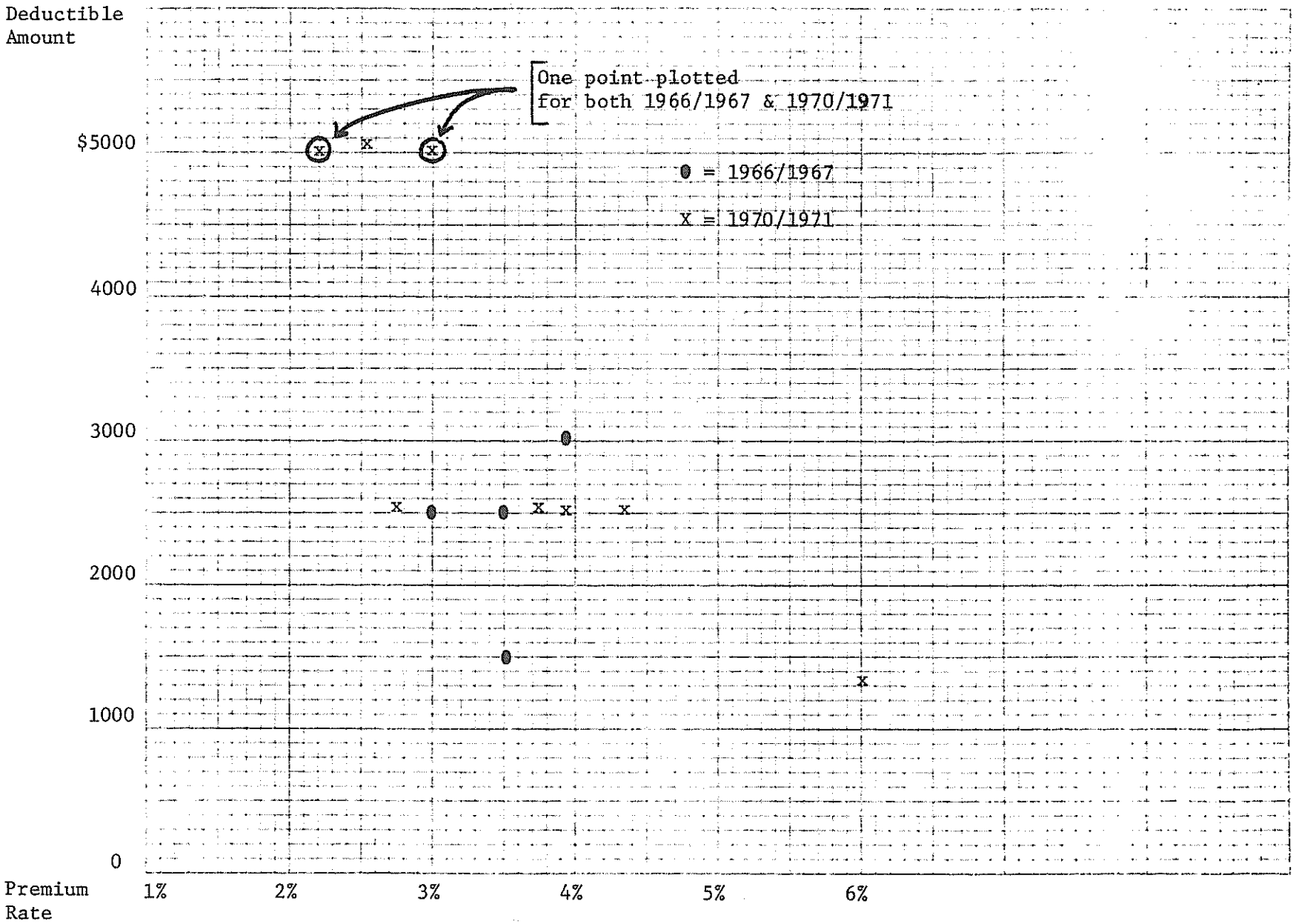
This accords with the higher average loss ratios for wooden vessels during the periods reported in Table II.

In Graphs I and II, the average premium rate paid by each respondent during a specific time period is plotted against the respective deductible amount. There is, as would be expected, an inverse relationship between these two variables. Furthermore, the higher deductible amounts tended to occur in 1970/1971, perhaps because operators increased deductibles so that the rise in premium rates could be retarded. Weighted average deductible amounts, calculated from data in Appendix I, increased from $1,700 to $2,083 for wooden vessels, and from $2,643 to $2,900 for steel vessels. The fact that average deductible amounts are higher for steel-hulled vessels may partially explain the higher premium rates for wooden vessels, given the inverse relationship between premium rates and deductible amounts.

Further analysis of the premium rate data does not appear useful because rates depend upon many factors that cannot be evaluated from these data. Clearly an insurer's premium rate depends upon his experience with his entire book of business--not a selected part of it. For example, unusual storm losses, even though not suffered by any of the operators included in this sample, could effect the rates reported. Furthermore, individual factors such as condition of the vessel and the equipment cannot be evaluated from these data.

GRAPH I

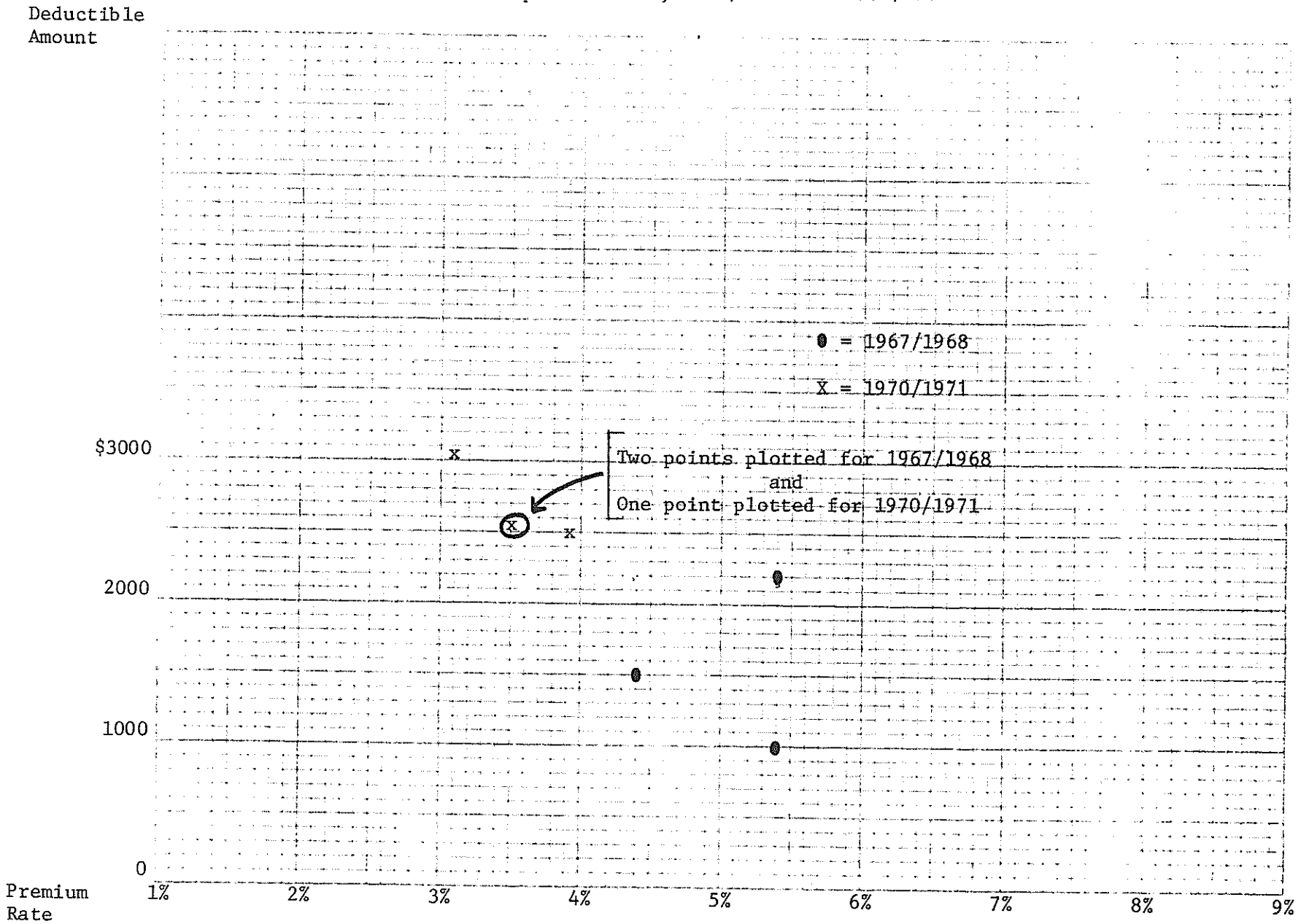
Relationship Between Premium Rate
and Deductible Amounts, 1966/1967 and 1970/1971



Steel Hulled Vessels

GRAPH II

Relationship Between Premium Rate
and Deductible Amounts, 1967/1968 and 1970/1971



Wooden Hulled Vessels

Significance of the Analysis

Because of the previously noted deficiencies in the data, it is not possible to extend the analysis to vessels not included in the data. The principal facts noted in the analysis relate to the loss ratios developed during the period, the relative dollar size of each reported loss, the cause of the losses premium rate variance, deductible amounts and variations between steel and wooden vessels.

Perhaps the most significant finding of the analysis concerns the loss experience during the period. Reported in Table II, the pure loss ratio for the entire period was 25.59 percent for steel vessels and 41.60 percent for wooden vessels. And, this experience was achieved at an average premium rate for the entire period of 3.64 percent for steel vessels and 4.99 percent for wooden vessels.

By comparision, the pure loss ratios experienced during part of the same period by all property-liability (casualty) insurance companies are reported in Table VI. The loss ratios generated by the vessels represented in this study are low, relative to the across-the-board experience of the casualty insurance industry during the periods indicated. The companies included in the Best's Review survey managed a composite underwriting profit in cases except one (stock companies in 1968). It appears possible that the insurance on the vessels represented in this study could have provided a substantial profit to an insurer assuming that these vessels represented

TABLE VI

Loss and Expense Ratios for All Property/Liability (Casualty) Insurance Companies, 1966 to 1968

Year	Stock Companies		Mutual Companies	
	Loss Ratio	Expense Ratio	Loss Ratio	Expense Ratio
1966	66.2%	31.9%	70.9%	24.2%
1967	67.2%	31.7%	72.7%	24.6%
1968	69.0%	31.5%	74.0%	24.5%

Source: Best's Review (Property/Liability Insurance Edition) May 1969 (Vol. 70, No. 1) p. 14-15.

his entire book of underwritings.

III. A PROPOSAL FOR THE SOLUTION OF THE SHRIMP INDUSTRY'S MARINE INSURANCE PROBLEMS

The marine insurance data gathered for the surveyed vessels suggest that hull insurance for that group could have been underwritten profitably by the insurer. However, when a preliminary statement of those findings was shown to several persons familiar with the industry's marine insurance problems, they indicated that they did not believe the findings to be representative of the industry. Among their responses were the following remarks:

> "I do believe that the loss experience of these vessels is better than that which was experienced by the industry as a whole. I have the impression that the response came from the kind of people who usually take the initiative to respond and to cooperate in such matters and these are the very same people who undoubtedly do a better job at operating a fleet and as a result, have better loss experience."[9]

> "...it is my opinion that the loss experience of your sample vessels is better than average for the industry as a whole."[10]

> "...the loss experience on these vessels would be better than the industry as a whole. The reason I believe this to be so is that I believe you received information from what is considered to be the better operators of shrimp trawlers."[11]

That the data can not be considered representative of the fleet was acknowledged in the previous section of this report. However, it appears from the above comments that the sample vessels managed a better loss record than the fleet as a whole, because the vessel owners are better-than-average operators. Assuming that

there is a disparity between the sample group and the industry as a whole, there is great likelihood that underwriting profits can be achieved through a more careful selection of underwriting risks. In fact, it does not seem improbable that premium rate reductions could be achieved by a proper selection program.

Thus, the basic decision made by some members of the shrimping industry on June 8, 1971 appears to be sound.

As previously stated, two alternative courses of action were proposed at that meeting. First, the creation of a "captive" insurance company by the TSA or its members; second, the formation of a "group" composed of TSA members. Both approaches possess a common element in that each provides a method of selecting out the poorer risks through the establishment and enforcement of minimum underwriting standards. This characteristic provides the mechanism by which marine insurance may be profitably underwritten.

Formation of an Industry-Owned "Captive" Insurance Company

Captive insurance companies are "captive" because they do not offer insurance to the general public. They are owned by an organization for the specific purpose of insuring a certain group i.e., customers, members, etc. Otherwise they are not different from other insurance companies.[12]

Managing such an insurance company would not burden the TSA. Insurance management services could be obtained for a fee and independent insurance agents could serve as the company's sales representatives. Members of the Association could serve as directors, meeting periodically to review the company's operations.

The financial requirements would be severe as minimum capital requirements would have to be met. These would vary according to the state (or foreign country) in which the company is domiciled. Whatever the amount, these requirements have to be contributed in cash. In the plan considered by the TSA, $300,000 in capital would be required.

Risks in excess of the company's ability to bear them would have to be reinsured. The principal market for reinsurance of marine risks is London.

The principal anticipated benefit to TSA members from the formation of a captive insurance company is lower-cost insurance, resulting from reduced losses. Losses are expected to be reduced through the establishment and enforcement of underwriting rules pertaining to safety and operating standards. Obtaining and renewing insurance coverages would be dependent upon complying with these underwriting rules.

Formation of An Industry Group

The group concept has been applied to property and liability insurance as well as to life and hospital insurance. Particular demand for group property and liability insurance has eminated from business associations for three principal reasons - coverage needs, cost needs, and underwriting and service needs. Of particular importance to this study is the demand for group insurance created by the need to reduce insurance costs. Cost reductions are possible for several reasons, including loss control and reductions in insurer expenses.[13]

Fortunately for the TSA members, marine insurance is not regulated. For reasons that seem somewhat inconsistant with the goal of maximizing the public benefit, insurance regulations ordinarily do not permit the formation of groups for the purpose of acquiring property and liability insurance.[14] Since marine insurance is beyond the reach of the state insurance regulations, this approach to solving the industry's insurance problems can be used.

As with the captive insurance company, the principal anticipated benefit to TSA members from the formation of the group is reduced insurance costs achieved by establishment and enforcement of safety and operating standards directed toward claim reductions. Acceptance and compliance with these standards would be required to enter and maintain membership in the group (in addition to being a member of TSA.)

Selection of the Approach

Although there was early sentiment for a captive insurance company, the financial requirements of approximately $300,000 to capitalize the corporation proved too severe. Accordingly, Pike/Anco of Houston, Texas was asked to prepare a proposal employing the group concept for the association. In the following sections the proposal will be summarized and evaluated.

The Proposal

The heart of the proposed insurance program[15] by Pike/Anco of Houston, Texas, is the requirement that the insurance be available only to those members of the TSA willing to support and implement the Associations's loss prevention program. This program calls for the establishment of minimum standards for insured vessels and their enforcement through annual inspection of the dry-docked vessel and unannounced follow-up inspections. In addition, the proposal anticipates that Pike/Anco will participate actively in such areas as claims analysis to assure corrective action will be taken to reduce the frequency of particular claims. Also involved is the instruction of captains in proper handling of injuries and reporting procedures, maintenance of an index of recorded claims and cooperation with the Texas Shrimp Association in the establishment and implementation of a windstorm dispersal plan. One benefit to be gained by the industry will be the provision of marine insurance by an "excellent" company on a permanent basis. Furthermore,

improved loss records by the industry will earn credits (that is, reductions in renewal premiums) both for the individual operators and the group.[16]

Fishing Vessel Underwriting Rules

A member applicant of the Texas Shrimp Association may secure insurance under the proposal according to the following underwriting rules.[17]

1. For both new policies and renewal policies, the applicant's credit must be satisfactory.

2. Satisfactory reposts concerning the condition of the vessel, valuation of the vessel and compliance with safety standards must be received for both new policies and renewal policies. (For details of safety standards, see Exhibit 1. p. 28.)

3. No vessels with gasoline main engines will be insured.

4. No gasoline auxiliary engines or butane stoves or heaters will be permitted until surveyor's requirements have been accomplished.

5. Navigation limits restrict the insured vessels to the Inland and Coastal Waters of the United States, the Gulf of Mexico, and the Gulf of Compeche, and not south of Cape Catoche. Any navigation outside these limits requires specific approval and additional premium payment.

6. Insurance will be written only on specific forms: Protection and Indemnity Insurance will be written on form "P & I 1955-SP-38;" Hull Insurance will be written on form "American Institute Hull Clauses. (January 18, 1970)."

7. Each vessel is to be insured for 100 percent of its value, according to the Condition and Valuation Surveys.

8. The standard deductibles are to be $2500 on all hull claims, excluding total and/or constructive total loss, and $1000 on all P & I claims.

Safety Standards and Underwriting Rules

According to the Pike/Anco proposal, the standards listed in Exhibit I on pages 28 and 29 are the minimum insuring standards to be maintained. The purpose of the inspections is to check for compliance with previously made recommendations, to observe any changes in the vessel's condition and to stress the importance of safety.

Schedule of Premium Rates

Schedule of hull and P & I rates are set forth in the proposal. The schedule of provisional hull rates, presented in Table VII, reflect higher premium rates for wood and fiberglass hulls than for steel-hulled vessels. As shown, the rates decline as the value of the insured vessel increases. The attached statement of conditions indicates these rates apply to vessels that are not more than 5 years old and reflect a deductible amount of $2500. According to the proposal, rates will be higher for older vessels and smaller deductible amounts. The minimum premium charge is $250 and flat cancellations will not be permitted. Cancellations require 45 days prior notice.

If a loss ratio of greater than 50 percent is developed, a 20 percent premium surcharge will be applied. Premium charges for increased navigation limits and National Marine Fisheries Service mortgage insurance endorsements are 50 cents for each $100 of insured valuation.[18]

EXHIBIT I

SAFETY INSURING STANDARDS

Vessels to be dry docked at least once a year and be inspected by an approved surveyor.

A. Vessels's underwater body, sea valves, keel coolers, rudders, propellers and appurtenances to be examined and maintained in seaworthy condition. All sea valves to be non-return check valves and positive closing gate valves on all outboard discharge lines.

B. All batteries to be installed in leadlined battery boxes.

C. Furnish and install low water alarm on main engine and auxiliary engine cooling water day tanks.

D. Furnish and install remote controlled master fuel oil cut off valves, and goosenecks and flame screens on all fuel oil tank vent screens.

E. Engine room bilges to be periodically cleaned using oil solvent detergent.

F. Furnish and install high-low lube oil temperature alarms on all main and auxiliary engines.

G. Permanent and auxiliary ship to ship, and ship to shore radio communicating facilities must be installed and maintained in first class condition at all times and the captain and crew instructed in its use.

H. All electrical circuits, switches, lights and fixtures to be of Marine type, complying with N.A.P.A. standards.

I. Open flame heaters must not be used in confined spaces and all butane systems must be installed, periodically inspected and maintained by approved personnel using N.F.P.A. standards.

J. Install and maintain an adequate supply of distress flares in pilot house locker.

K. Furnish and install auxiliary and belt driven bilge and fire pumps and maintain in proper working condition.

Exhibit 1. (con't.)

L. Gasoline engines must be removed from all confined spaces and if used instead of auxiliary diesel powered engines, be placed in wall ventilated deck spaces. Substitute diesel powered auxiliaries where practical.

M. Fire extinguishing equipment fixed and/or automatic as well as hand, to be installed and maintained in accordance with Marine standards.

N. While navigating, pilot house watch to be maintained at all times. When berthed and/or tied up, vessel to be under watchman supervised service.

The above are minimum insuring standards which must be maintained. Again, we remind you that we can only obtain and maintain favorable rates for our assureds if the loss experience can support them. We sincerely solicit the support of assureds.

Source: "Texas Shrimp Association - Insurance Proposal" by Pike/Anco, P.O. Box 22722, Houston, Texas 77027, January 1, 1972.

TABLE VII

TEXAS SHRIMP ASSOCIATION PROVISIONAL HULL RATES

Diesel Powered Vessels - 5 Years Old and Under

Value	Steel	Wood & Fiberglass
$19,000 AND UNDER	5.0 %	7.0 %
20,000 - 24,999	4.75%	6.75%
25,000 - 29,999	4.75%	6.75%
30,000 - 34,999	4.25%	6.25%
35,000 - 39,999	4.0 %	6.0 %
40,000 - 44,999	4.0 %	6.0 %
45,000 - 49,999	4.0 %	6.0 %
50,000 - 54,999	3.75%	5.75%
55,000 - 59,999	3.5 %	5.5 %
60,000 - 64,999	3.5 %	5.5 %
65,000 - 69,999	3.5 %	5.5 %
70,000 - 74,999	3.25%	5.25%
75,000 - 79,999	3.25%	5.25%
80,000 - 84,999	3.25%	5.25%
85,000 - 89,999	3.0 %	5.0 %
90,000 - 94,999	3.0 %	5.0 %
95,000 - 99,999	3.0 %	5.0 %
100,000 - 124,999	3.0 %	5.0 %
125,000 - 150,000	3.0 %	5.0 %

PENALTY RISE: When Loss Ratio exceeds 50% minimum penalty surcharge rate increase of 20% will be applied.

VESSELS 6 YEARS TO 10 YEARS INCLUSIVE: Increase Rate 5% for each year over 5 years.

VESSELS 11 YEARS TO 20 YEARS INCLUSIVE: Submit on Individual Vessel basis for merit rating. Minimum additional increase in rate, 5% for each year over 10 years.

TABLE VII (Con't)

RATES BASED ON A DEDUCTIBLE OF $2,500.00 -- TO REDUCE TO $1,500.00 INCREASE RATE 10%

BUREAU OF COMMERCIAL FISHERIES:
Mortgage Insurance Endorsement and Breach of Warranty Endorsement - Rate $.50 on amount of mortgage.

ADDITIONAL FOR CARRIBBEAN AND/OR EAST COAST, CENTRAL AMERICA AND/OR SOUTH AMERICA, NOT SOUTH OF PARNAIBA, BRAZIL - $.50.

ADDITONAL TRIPS TO AND FROM U.S. PORTS: - $.50.

MINIMUM EARNED PREMIUM - $250.00 NO FLAT CANCELLATIONS

CANCELLATIONS: 45 days prior notice at any time.

Source: "Texas Shrimp Association - Insurance Proposal" by Pike/Anco, P.O. Box 22722, Houston, Texas 77027, January 1, 1972.

Evaluation of the Proposal

The principal insurance problems facing TSA members are the availability of insurance and the premium rate at which the insurance can be obtained. The plan proposed to the TSA by Pike/Anco will make insurance available at stated premium rates. The Pike/Anco plan stresses, however, that the plan demands the cooperation of individual members of the Texas Shrimp Association if it is to work. Accordingly, some analysis of the plan is necessary to ascertain benefits to the individual member.

The conditions for obtaining insurance are compliance with previously stated safety standards and underwriting rules in addition to being a member of the Texas Shrimp Association. Compliance is ascertained through an annual "haul out" inspection plus unannounced follow-up inspections. The member desiring the insurance must bear the cost of the inspection. If the TSA member continues to comply with the regulations of the Pike/Anco proposal, insurance will be made available at the stated premium rates if conditions so justify. Should a loss ratio of greater than 50 percent be developed, a higher premium rate will be charged; should loss experience be more favorable than expected, group and individual credits will be granted on policy renewals. Thus, it is possible that the insurance will be available at either higher or lower premium rates than those quoted.

Since the insurance will be written on standard policy forms, the coverage provided will not differ from that currently being purchased.[19] Provided the member's vessels are currently insured, the question is "Is the present value of any future savings in premium charges greater than the cost of the inspections and making necessary improvements?"[20] If the member is not presently insured, compliance with the plan may present the only realistic alternative.

One method of evaluating the plan is to compare the quoted hull rates with those paid by the surveyed respondents. The following table summarizes some of the 1970-1971 data for both steel and wooden vessels.

TABLE VIII

A SUMMARY OF THE PRINCIPAL FINDINGS, 1970-1971

	Number of Vessels	Average Agreed Valuation	Premium Rates Average	High	Low	Weighted Average Deductible Amount
Steel Vessels	73	$72,137	3.62%	6.00%	3.00%	$2900
Wooden Vessels	47	44,106	5.44	10.60	3.10	2083

Source: Sample Data

Comparisons of these findings with the provisional hull rates disregard the age factor, since this information was not collected in the survey. However, under the proposed plan steel vessels with

an average agreed valuation of $72,137 would pay a rate of 3.25 percent whereas the average premium rate for the surveyed vessels was 3.62 percent. The maximum provisional rate in the proposed plan for steel vessels is 3.0 percent and no respondent reported paying a lower premium rate. In the case of wooden vessels with an average agreed valuation of $44,106, the provisional hull rate is 6 percent compared to the average premium of 5.44 percent found in the survey. The lowest and highest contemplated provisional hull rates for wooden vessels (assuming an age of 5 years or less) are 5 percent and 7 percent respectively whereas the lowest and highest reported rates in the survey were 3.10 percent and 10.60 percent respectively. Thus, the hull rates quoted in the proposal do not differ greatly from the average rates paid by the TSA members who responded to the sample.

The premium rates paid by the individual vessel owners in the sample group reflect their particular insurer's entire book of business, both good and bad risks. If the poorer risks could be eliminated either by upgrading them or by excluding them from the group, premium rates would not need to be set at a level high enough to cover the losses experienced by the poor risks. Since the sample vessels would appear to have been a profitable underwriting group for an insurer, it seems that the hull rates quoted in the Pike/Anco proposal could be generally maintained and perhaps even reduced, if favorable loss records are maintained.

There is another consideration to the Pike/Anco plan, however. If the "better" operators participate in the Pike/Anco plan, what will be the impact on the "marginal" operators? They would seem to have three alternatives:

1) bring their vessels into compliance with the requirements of the Pike/Anco proposal

2) obtain insurance elsewhere

3) operate without insurance

If the vessel is old or is in poor condition, the present value of the future savings on insurance costs may be less than the cost of meeting the underwriting standards. In this case, the operator would be financially worse off from participating in the Pike/Anco group.

Obtaining insurance elsewhere may be most unattractive if most of the "better" operators participate in the plan. With the bulk of the good risks in the Pike/Anco group, very high premium rates would be required by other companies to insure only the poorer risks. Thus, the only practical alternative to the Pike/Anco plan might be to operate without insurance (if operating without insurance can be called practical).

This harsh conclusion brings another problem into view which was examined in some detail by Michael L. Redfield in his study of the commercial fishing industry's insurance

problems. Shrimping is an industry of nonrestricted entry; anyone who has a vessel can participate. As long as there are profits to be made, there will be persons entering the industry. Mr. Redfield suggests that "any measure which lowers the cost of insurance, alone or in combination with other costs, will therefore result in additional effort being drawn into the fishery".[21] The temporary effect of lowering costs will be to increase the level of profit but this will be followed quickly by additional persons entering the industry. When this happens, the increased profit that was gained from the cost reduction must now be divided by a larger number of fishermen. Thus, he does not envision any long-run solution to the problem unless entry into the fishing industry is restricted.[22]

The adoption of the Pike/Anco plan by the "better" operators could force the marginal operators out of business over time. This could come about from the effect on profits of very high insurance costs (for insurance obtained from other sources than Pike/Anco) or this could be the result of uninsured losses which would force a firm into insolvency. Yet if the industry does nothing to reduce insurance costs the very same events may take place - the forcing of the marginal operators from the industry as a result of high insurance costs or uninsured losses.

If the Pike/Anco plan will make matters neither better nor worse for the marginal operator, can the plan benefit other members of the industry? Or will it, as Redfield suggests, do no good in the long-run since reduced insurance costs will only attract additional persons into the industry?

That additional persons may enter the industry because of reduced insurance costs is possible. However, the number of new entrants would be greater if insurance costs reductions were achieved through a government subsidy program since the reductions would be available to everyone on an equal basis. The benefits of the Pike/Anco plan are only achieved when the individual finds it financially beneficial to meet the plan's underwriting rules and requirements. If both the Pike/Anco plan and a government subsidy reduced insurance costs equally, the government subsidy presumably would attract a greater number of new entrants into the industry. The probable effect of the private costs associated with the Pike/Anco plan is to restrict entry into the shrimping industry somewhat. And, according to the Redfield study, restricting entry would be quite beneficial for the industry.

CONCLUSION

The members of the Texas Shrimp Association should support the insurance plan proposed to them by Pike/Anco of Houston, Texas. The insurance will be written on standard forms and, therefore, coverages will be standard. By complying with the underwriting rules and regulations contained in the proposal, insurance will be available at premium rates that appear to be favorable. If the loss prevention program is adopted enthusiastically, insurance costs may be further reduced for those able and willing to meet the requirements for membership in the Pike/Anco group.

APPENDIX A

H U L L

STEEL

No. of Respondents	Year	No. of Insured Vessels	Total "Agreed Valuation" of Ins. Vessels	"Agreed Valuation" of Insured Vessel With the Lowest Valuation	"Agreed Valuation" of Insured Vessel With the Greatest Valuation	Average Premium Rate	Deductible Amount	Total Premium Paid	Total Losses	Major Cause of Losses
3	1966-1967	34	1,451,000 (Avg.= 42,676)	25,000	75,000	3.89% (3.5-5.25)	1-1000 2-2500	56,575	4,000	1 Hurricane
5	1967/1968	51	1,936,800 (Avg.= 37,976)	16,000	75,000	4.99% (3.5-8.0)	2-1000 1-1500 2-2500	96,802	62,511	1-Grounding 1-Struck submerged object 1-Barratry 1-Hurricane
5	1968/1969	48	1,942,400 (Avg.= 40,466)	16,000	75,000	5.42 (3.4-8.2)	3-1500 2-2500	105,296	50,000	1-Grounding 1-Struck pier 1-Struck submerged object
6	1969/1970	51	2,281,600 (Avg.= 44,737)	15,000	75,000	4.91% (2.9-12.65)	1- 500 2-1500 3-2500	112,069	70,701	1-Hurricane 1-Collision 1-Hit reef and sunk
6	1970/1971	47	2,073,000 (Avg.= 44,106)	15,000	75,000	5.44% (3.1-10.6)	1- 500 1-1500 3-2500 1-3000	112,839	14,000	2-Collisions

H U L L

WOODEN

No. of Respondents	Year	No. of Insured Vessels	Total "Agreed Valuation" of Ins. Vessels	"Agreed Valuation" of Insured Vessel With the Lowest Valuation	"Agreed Valuation" of Insured Vessel With the Greatest Valuation	Average Premium Rate	Deductible Amount	Total Premium Paid	Total Losses	Major Cause of Losses
7	1966/ 1967	64	3,537,500 (Avg.=55,273)	25,000	100,000	3.87% (2.25-5.5)	2-1000 1-1500 2-2500 2-5000	137,025	25,000	1-Hit submerged object
8	1967/ 1968	85	4,891,093 (Avg.=57,542)	20,000	100,000	3.48% (2.5-5.5)	2-1000 1-1500 3-2500 2-5000	170,631	50,190	1-Crew negligence
9	1968/ 1969	84	4,998,175 (Avg.=59,502)	20,000	100,000	3.57% (2.1-5.5)	2-1000 1-1500 4-2500 2-5000	178,697	70,920	1-Grounding 1-Bad Weather 1-Electrical
9	1969/ 1970	78	5,846,000 (Avg.=74,949)	20,000	100,000	3.71% (2.25-6.0)	2-1500 4-2500 2-5000 1-7500	217,164	74,027	1-Beached-asleep on watch 1-Bad weather 1-Collision with jetty
9	1970/ 1971	73	5,266,000 (Avg.=22,500)	20,000	100,000	3.62% (3.0-6.0)	1-1500 5-2500 3-5000	190,923	26,700	1-Bad weather 1-Hurricane

FOOTNOTES

1. Opinion expressed according to author's notes taken at the meeting.
2. Ibid.
3. Ibid.
4. Ibid.
5. Ibid.
6. Michael L. Redfield, "Costs and Profitability in the Commercial Fishing Industry: The Insurance Dilemma (Division of Marine Resources, University of Washington, November 1971).
7. Membership Roster of Texas Shrimp Association, March 1, 1971.
8. Best's Review (Property/Liability Insurance Edition)
9. Statement by John A. Mehos, personal letter.
10. Statement by Robert G. Mauermann, personal letter.
11. Statement by William K. Zimmerman, personal letter.
12. H. Felix Kloman, "The Captive Life Insurance Company." Finance Executive, Vol. XL, No. 3, (March 1972) pp. 44-52.
13. James T. Chastain, "Group Property and Liability Insurance" in Robert D. Eilers and Robert M. Crowe (ed.), Group Insurance Handbook, Richard D. Irwin, Inc. (Homewood: 1965) pp. 732-748.
14. Ibid.
15. "Texas Shrimp Association - Insurance Proposal" by Pike/Anco, P.O. Box 22722, Houston, Texas 77027, January 1, 1972.
16. Ibid.
17. Ibid.
18. Ibid.
19. Ibid.
20. On this point see the discussion by Michael L. Redfield, "Costs and Profitability in the Commercial Fishing Industry: The Insurance Dilemma," Division of Marine Resources, University of Washington, November 1971, pp. 30-31 and 43.
21. Ibid., p. 51.
22. Ibid., p. 52.